

ENVIRONMENTAL PROTECTION AGENCY  
Office of Enforcement

REGION 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO. 02AH16		PROJECT NAME cheshire monitoring study				NO. OF CON- TAINERS	<div style="text-align: right;">Activity Code: 12345 901014 AIR 20020012</div>									
SAMPLERS: (Print Name and Sign) mike murphy <i>Mike Murphy</i> <i>Mik Murphy</i>																
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION											
DO1	10/22	00:00	X		GHS	2	TAG NUMBERS 5-340087 1 to 2									
S03	10/22	00:00	X		ADDAVILLE	2	5-340089 1 to 2									
SO1	10/22	00:00	X		GHS	2	5-340086 1 to 2									
SO2	10/22	00:00	X		RVHS	2	5-340088 1 to 2									
							Guiding Hands school									
							Serial # 3012, Pstg avg = 18.75 inches OF H <sub>2</sub> O									
							Serial # 3013, Pstg avg = 18.45 inches OF H <sub>2</sub> O									
							RVHS									
							Serial # 3009, Pstg avg = 19.1 inches OF H <sub>2</sub> O									
							Addaville									
							Serial # 3011, Pstg avg = 19.35 inches OF H <sub>2</sub> O									
Relinquished by: (Signature) <i>Mik Murphy</i>			Date / Time 10/29/00 15:28		Received by: (Signature) <i>William Lopez</i>			Ship To:								
Relinquished by: (Signature)			Date / Time		Received by: (Signature)											
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature) <i>William Lopez</i>			Date / Time 11/6/01 16:59		ATTN:						
Airbill Number UPS 1Z 401 19901 4038 5444										Chain of Custody Seal Numbers						

5-140021

Project No. 02AH16 Project Name CHESHIRE MONITORING STUDY 90101A  
20020072 ARRIVAL DATE: 11/6/2001 DUE DATE: 12/4/2001

Sampler  
mike murphy

Cooler ID 1 Page 5-140021

Sample Id:	Station	Date / Time	Grab / Comp	Station Location	No Bottles	Tag Numbers
02AH16DO1	DO1	22/10/2002 00:00:00	<input type="radio"/> Grab <input checked="" type="radio"/> Com	GHS	2	5-340087 1 to 2

Bottle No. 1  
Parameter  
Metal analysis by ICP

Bottle No. 2  
Parameter  
PM10

Sample Id:	Station	Date / Time	Grab / Comp	Station Location	No Bottles	Tag Numbers
02AH16S03	S03	22/10/2002 00:00:00	<input type="radio"/> Grab <input checked="" type="radio"/> Com	ADDAVILLE	2	5-340089 1 to 2

Bottle No. 1  
Parameter  
Metal analysis by ICP

Bottle No. 2  
Parameter  
PM10

Sample Id:	Station	Date / Time	Grab / Comp	Station Location	No Bottles	Tag Numbers
02AH16SO1	SO1	22/10/2002 00:00:00	<input type="radio"/> Grab <input checked="" type="radio"/> Com	GHS	2	5-340086 1 to 2

Bottle No. 1  
Parameter  
Metal analysis by ICP

Bottle No. 2  
Parameter  
PM10

Sample Id:	Station	Date / Time	Grab / Comp	Station Location	No Bottles	Tag Numbers
02AH16SO2	SO2	22/10/2002 00:00:00	<input type="radio"/> Grab <input checked="" type="radio"/> Com	RVHS	2	5-340088 1 to 2

Bottle No. 1  
Parameter  
Metal analysis by ICP

Bottle No. 2  
Parameter  
PM10

## 20020012 Filters and particulate metals

Metals - Data package incomplete. Data checklist from Data Coordinator shows everything present but folder does not have information. The presumption is that the samples were run in one large batch with the raw data, and sample prep logs in another folder. There should be some reference to this 'complete' folder in the review form so that the QA reviewer can find something to review.

Filters - If the data is in an electronic spread sheet it can be stored electronically as well. Although this is not raw data in the usual sense, storing the spreadsheets might be considered.

Corrective action - Case narrative was found, copied and added to the data package. Metals data review SOP will be modified to require a copy of the case narrative in each data package. The narrative will also state with which data package the raw data for the group of data packages is stored.

*MJ 5/20/2002*

**Date:** 14 November 2001

**Analyst:** John V. Morris 

**Sample Batch Number:** 20020009, 20020012 & 20020013

**Facility Name:** Cheshire Monitoring Study

**Analyte:** ICP Metals

### Narrative for the Analysis of Metals in Air Filters in Batches 20020009, 20020012 & 20020013

On 26 October 2001, two air filters were received at CRL for analysis for metals. These samples were collected on 16 October 2001. On 6 November 2001, two sets of four air filters were received at CRL for analysis for metals. These samples were collected on 22 October 2001 and 28 October 2001. The sample descriptions are:

Batch ID	Sample ID	Serial No.	Station ID
20020009	2002AH15S02	G1006674	RVHS
	2002AH15S03	G1006675	ADDAVILLE
20020012	2002AH16S01	G1006670	GHS
	2002AH16D01	G1006672	GHS
	2002AH16S02	G1006664	RVHS
	2002AH16S03	G1006662	ADDAVILLE
20020013	2002AH17S01	G1006668	GHS
	2002AH17D01	G1006666	GHS
	2002AH17S02	G1006658	RVHS
	2002AH17S03	G1006660	ADDAVILLE

The analysis was limited to the thirteen metals listed on page 15 of the QAPP. In a telephone conversation, Mike Murphy of OEPA explained that the GHS monitors were affected by a power outage on 16 October.

The samples were prepared on 8 November 2001. Method Metals\_006, a hot block adaptation of the beaker digestion given in 40 CFR Part 50, Appendix G, was used for the digestion. The digestion log number was 1328. There are no holding times for the air program.

Only one filter blank was prepared because no examples of the lot currently in use were available. Because we do not have blanks from this lot, the same blank subtraction criteria as for the first several batches were used. The previous blank data was used for blank subtraction, only applying blank subtraction to the elements barium, chromium, iron, magnesium and nickel. All other elements reported had filter blank results well below the detection limits of the respective



Date: 14 November 2001

Analyst: John V. Morris 

Sample Batch Number: 20020009, 20020012 & 20020013

Facility Name: Cheshire Monitoring Study

Analyte: ICP Metals

analytes. For the five above named elements, the average filter blank from the measurements performed alongside earlier batches from this study and data collected on filter blanks prior to the begin of field collection, was subtracted from the measured results. This was done as described in section 11.2 of the CRL SOP Metals\_006 to remove the contribution to the result from the glass fiber filter itself. The reporting limits used for those five elements were derived from ten times the standard deviation of the data used to arrive at the average blank.

The analysis was performed on 9 November 2001 using method Metals\_003, using the Perkin-Elmer 3300DV ICP. The yttrium internal standard tubing came apart twice during the run. The analysis was restarted from the last analysis with valid intensity readings for yttrium. The second time this happened, the yttrium intensities stabilized at a somewhat lower value. This probably contributed to an elevation of the calculated concentrations for a number of analytes.

For the thirteen metals reported for this study, all instrument check standards (LCM1, LCM2, Hi AQC) were in control, with the exception of the last two LCM1 results for selenium. These were just high (111.7% and 110.2%), so only the two values above reporting limit (2002AH17S01 and 2002AH17D01) were flagged with a "J" for possible high bias. The blanks showed a few out-of-control audits, but most were not of any consequence to the data. Specifically, beryllium, cadmium, iron and magnesium were either greater than or more negative than the MDL for one or more of the instrument blanks (LCB) straddling the field samples. None of this bias, if compensated for, would result in a reportable concentration for beryllium, or would be more than a percent or two change for the others, except for the negative response for cadmium on the final instrument blank. If that were taken into account, the results for samples 2002AH16S02 could be a false negative. For that reason, this result is given a "J" flag as estimated. The first instrument blank was high (above MDL) for iron, lead and magnesium. These had no effect on the data. The digestion blank (LRB) was high for beryllium, cobalt, iron, magnesium and selenium, and low for arsenic and cadmium, again with no effect, except for the cadmium, as mentioned above.

The report level check (RLC) was within 80-120% recovery for most of the 13 elements. Iron and magnesium were outside these limits by almost exactly the amount the first instrument blank was off. The other instrument checks for these elements were all in control, and the data for these two elements were far above the reporting limits, at least before filter blank subtraction. The duplicate filter digestion was within  $\pm 20\%$  for the relative percent difference (RPD) or within  $\pm$  the MDL for the difference, with the exception of cadmium, with an absolute difference in the duplicate just greater than the MDL when converted to  $\mu\text{g}/\text{filter}$  in the duplicate of 2002AH16S01. Cadmium is given a "J" flag for the batch due to imprecision, in addition to the problem with the false negative mentioned above. Barium had an RPD of 33% for the duplicate

Date: 14 November 2001

Analyst: John V. Morris

Sample Batch Number: 20020009, 20020012 & 20020013

Facility Name: Cheshire Monitoring Study

Analyte: ICP Metals

of sample 2002AH15S03, but all results, after blank subtraction, were less than the reporting limit, so the data was not flagged.

Four digests, that for sample 2002AH16S01 and its duplicate, and for 2002AH17D01 and its duplicate, were greater than the calibration standard for copper. The high value for copper in the S01 sample for each set has been planned for as a normal part of the analysis and had been inserted into the run as part of the normal run, and the copper data is taken from these dilutions. In this case, for batch 20020013, the D01 sample, duplicated in the digestion, was the one with high copper. Sample 2002AH17D01 and its duplicate were inserted into the run, but the name for the first was not changed in the .sif file from the S01 sample. Corrections were made to the saved export file.

No significant spectral interference errors are indicated in the SIC measurements for these samples

Again, as with previous batches, the co-located sample pair 2002AH16S01 and 2002AH16D01, as well as the co-located sample pair 2002AH17S01 and 2002AH17D01, results are quite different. It is unusual that the D01 member of the pair had the high copper in the samples collected on 28 October. Because that was the one chosen for digestion duplicate, this analyst knows no sample mix-up occurred in the laboratory.

All analytical results files, sample information files and reformat files for ICP analysis can be found on the R5CRL data server using the following path:  
h:\r5crl\vol3\metals\jvmorris\20020009\_12\_13\3300dv\

The narrative, QC summary spreadsheets, sample result calculation spreadsheets and the final sample report for ICP analysis can be found on the R5CRL data server using the following path:  
h:\r5crl\vol3\metals\jvmorris\20020009\_12\_13\reports\

## CENTRAL REGIONAL LABORATORY

### Data Checklist

Data Set AIR 20020012 Cheshire Monitoring Study  
Metals

- ☒ Chain-of-Custody
- ☒ Analysis Request Form(s)\*
- ☐ Sample Tags
- ☒ Transmittal Report w/signatures of the following
  - Analyst
  - Peer reviewer
  - Data Management Coordinator

\* Analysis Request Forms provide the data user a means to connect sample numbers with sampling locations

Prepared by: Sylvia Griffin 11-15-01  
Data Management Coordinator

Rev. 6/12/00



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: NOV 15 2001

Subject: Review of Region 5 Data for **Cheshire Monitoring Study**

From: **John V. Morris, Chemist**  
Region 5 Central Regional Laboratory

A handwritten signature in blue ink, appearing to read "John V. Morris", is written over the printed name and title.

To:

Attached are the results for: **Cheshire Monitoring Study**

CRL data set number: **20020012**

Samples analyzed for: **Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel and Selenium**

Results are reported for sample designations: **2002AH16S01, 2002AH16D01, 2002AH16S02 and 2002AH16S03**

NOV 15 / 2001

---

Data Management Coordinator and Date Received

Date Transmitted: NOV 15 / 2001

Please have the U.S. EPA Project Manager/Officer complete the Customer Satisfaction Survey, attached, or call the CRL Sample Coordinator at 3-1226.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin  
Data Management Coordinator  
Region 5 Central Regional Laboratory  
ML-10C

\_\_\_\_\_/ /  
Received by and Date

Comments:

# Central Regional Laboratory, RMD, Region 5

## Customer Satisfaction Survey

The purpose of this survey is to collect information from you about your recent experience with analytical services received from the Region 5 Central Regional Laboratory (CRL). This survey is divided into 4 sections. Please fill out the information in each section as requested. Then in Section C, supply your name and contact information, and submit the form as directed at the end of the survey.

### Section A -- Sample Requests

Please respond to the following questions as accurately as possible. If you have additional comments beyond the space provided, please send them to George Schupp, CRL Sample Coordinator, at ML-10C (See Form Submission).

1. What is your CRL Data Set Number(s) [i.e., the 8-digit number beginning with the 4-digit FY and followed by a 4 digit number]? (Eg.:20010099) \_\_\_\_\_

2. How easy was it to schedule samples? :

Easy: \_\_\_\_\_

Difficult: \_\_\_\_\_

3. If not "Easy", please provide a brief explanation:

### SECTION B -- Analytical Services

Please respond to the following questions concerning the analysis of your samples.

1. Overall, how would you rate the CRL analytical services you received?

Bad \_\_\_\_; Poor \_\_\_\_; Fair \_\_\_\_; Good \_\_\_\_; Excellent \_\_\_\_

2. If not "Good" or "Excellent", what was the problem?

3. What type of analytical services did you request (eg, analysis of samples, etc.; lab audit; document review, other)?

4. Who performed the analytical service(s) (CRL EPA Staff, ESAT)?

## SECTION C -- Comments and Suggestions

Please provide specific comments or suggestions for improving any of the aspects of CRL Analytical Services:

If you would like additional information on CRL Analytical Services, The CRL Board of Directors, or the Sample Request Process, please indicate below (✓) and provide your name and mail code).

Analytical Services \_\_\_\_; CRL Board of Directors \_\_\_\_; Sample Requests \_\_\_\_

Name: \_\_\_\_\_ Mail Code: \_\_\_\_\_

### FORM SUBMISSION

**Thank you** for taking the time to answer the questions in our survey. You will receive a confirmation message from us shortly.

We will review your survey and respond to any specific concerns or problems ASAP. Your survey and others will be evaluated for trends in an effort to establish efficient support and analytical processes. The process at each stage of the analytical services we provide are critical links towards giving you the kind of timely, accurate analytical services you need. This data will also be tracked by our management and the Board of Directors so additional customer feedback can be used to plan CRL activities in the future.

Please forward this completed survey to:

**CRL Sample Coordinator at Mail code: ML-10C**

Please go to the following e-mail address at: [schupp.george@epa.gov](mailto:schupp.george@epa.gov) to request an electronic copy of this survey or call 312-353-1226.



## CRL Data Review Qualification Codes

QUALIFIER	DESCRIPTION
<b>B</b>	This flag is used when the analyte is found in the associated <u>B</u> lank as well as the sample. It indicates possible blank contamination and warns the user to take appropriate action while assessing the data. See the case narrative for a discussion of common lab contaminants and/or the relative concentration of contamination in the samples and blanks for relevance.
<b>J</b>	This flag is used when the analyte is <u>estimated</u> due to quality control limit(s) being exceeded. This flag accompanies all GC/MS tentatively identified compounds (TICs). This flag also applies to a suspected, unidentified interference. This flag is placed on affected detected results as well as non-detected (i.e., "U" flagged) results. ( <u>J</u> is the flag used in the Superfund CLP SOW and Data Review Functional Guidelines and is used by CRL for consistency.)
<b>M</b>	This flag is used when the analyte is confirmed to be qualitatively present in the sample, extract or digestate, with a quantity at or above the CRL <u>M</u> ethod Detection Limit (MDL) but below the lowest concentration of the calibration curve. This flag indicates the quantitated value is <u>estimated</u> since it falls below the lowest calibration standard in the calibration curve.
<b>N</b>	This flag applies to GC/MS <u>N</u> tentatively Identified Compounds (TICs) that have a mass spectral library match.
<b>Q</b>	This flag applies to analyte data that are severely estimated due to quality control and/or <u>Q</u> uantitation problems, but are confirmed to be qualitatively present in the sample. <u>No value is reported with this qualification flag.</u>
<b>R</b>	This flag applies to analyte data that are <u>R</u> ejected and unusable due to severe quality control, quantitation and/or qualitative identification problems. No other qualification flags are reported for this analyte. <u>No value is reported with this qualification flag.</u>
<b>U</b>	This flag is used when the analyte was analyzed for but <u>U</u> ndetected in the sample. The CRL RL for the analyte accompanies this flag. When the customer requests CRL to report below our RL down to our MDL, undetected analytes are reported with a "U" code and the MDL. As with sample results that are positive, the value is corrected for dry weight, dilution and/or sample weight or volume.

03/07/01

US EPA CRL - Region V  
ICP Final Report Results  
Air Filters

Sample Number:	2002AH16S01	Station ID:	GHS
Sample Batch Number:	20020012	Study:	Cheshire Monitoring Study
Collection Date:	22 Oct 01	Filter SN:	G1006670
Analysis Date:	9 Nov 01		

<u>Element</u>	<u>Concentration</u>	<u>Units</u>
Arsenic	9 U	µg/filter
Barium	102	µg/filter
Beryllium	0.6 U	µg/filter
Cadmium	0.951 J	µg/filter
Chromium	3.14 U	µg/filter
Cobalt	1.2 U	µg/filter
Copper	1520	µg/filter
Iron	993	µg/filter
Lead	28.6	µg/filter
Magnesium	494	µg/filter
Manganese	35.0	µg/filter
Nickel	5.73 U	µg/filter
Selenium	18 U	µg/filter

km  
14 Nov 01

US EPA CRL - Region V  
ICP Final Report Results  
Air Filters

Sample Number:	2002AH16D01	Station ID:	GHS
Sample Batch Number:	20020012	Study:	Cheshire Monitoring Study
Collection Date:	22 Oct 01	Filter SN:	G1006672
Analysis Date:	9 Nov 01		

<u>Element</u>	<u>Concentration</u>	<u>Units</u>
Arsenic	9 U	µg/filter
Barium	95 U	µg/filter
Beryllium	0.6 U	µg/filter
Cadmium	0.861 J	µg/filter
Chromium	3.14 U	µg/filter
Cobalt	1.2 U	µg/filter
Copper	212	µg/filter
Iron	1220	µg/filter
Lead	18.0	µg/filter
Magnesium	622	µg/filter
Manganese	45.1	µg/filter
Nickel	5.73 U	µg/filter
Selenium	18 U	µg/filter

Jan  
14 Nov 01

US EPA CRL - Region V  
ICP Final Report Results  
Air Filters

Sample Number:	2002AH16S02	Station ID:	RVHS
Sample Batch Number:	20020012	Study:	Cheshire Monitoring Study
Collection Date:	22 Oct 01	Filter SN:	G1006664
Analysis Date:	9 Nov 01		

<u>Element</u>	<u>Concentration</u>	<u>Units</u>
Arsenic	9 U	µg/filter
Barium	95 U	µg/filter
Beryllium	0.6 U	µg/filter
Cadmium	0.6 U,J	µg/filter
Chromium	3.14 U	µg/filter
Cobalt	1.2 U	µg/filter
Copper	42.5	µg/filter
Iron	567	µg/filter
Lead	11.6	µg/filter
Magnesium	343 U	µg/filter
Manganese	22.3	µg/filter
Nickel	5.73 U	µg/filter
Selenium	18 U	µg/filter

*14 Nov 01*

US EPA CRL - Region V  
ICP Final Report Results  
Air Filters

Sample Number:	2002AH16S03	Station ID:	ADDAVILLE
Sample Batch Number:	20020012	Study:	Cheshire Monitoring Study
Collection Date:	22 Oct 01	Filter SN:	G1006662
Analysis Date:	9 Nov 01		

<u>Element</u>	<u>Concentration</u>	<u>Units</u>
Arsenic	9 U	µg/filter
Barium	95 U	µg/filter
Beryllium	0.6 U	µg/filter
Cadmium	0.6 U,J	µg/filter
Chromium	3.14 U	µg/filter
Cobalt	1.2 U	µg/filter
Copper	360	µg/filter
Iron	706	µg/filter
Lead	9.65	µg/filter
Magnesium	343 U	µg/filter
Manganese	32.4	µg/filter
Nickel	5.73 U	µg/filter
Selenium	18 U	µg/filter

Jun  
14 Nov 01

## CENTRAL REGIONAL LABORATORY

### Data Checklist

Data Set AIR 20020012 *Cheshire Monitoring*  
*Suspended Particles*

☒ Chain-of-Custody

☒ Analysis Request Form(s)\*

☐ Sample Tags

☒ Transmittal Report w/signatures of the following:

- Analyst (s)
- Data Management Coordinator

\* Analysis Request Forms provide the data user a means to connect sample numbers with sampling locations

Prepared by: *Sylvia Griffin* 11-27-01  
Data Management Coordinator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REGION 5 CENTRAL REGIONAL LABORATORY

536 SOUTH CLARK STREET

CHICAGO, ILLINOIS 60605

Date: NOV 27 2001

Subject: Review of Region 5 Data for CHESHIRE MONITORING STUDY

From: Francis A. Awanya, Chemist *FAA*  
Region 5 Central Regional Laboratory

To:

Attached are the results for: CHESHIRE MONITORING STUDY

CRL data set number: 20020012

Samples analyzed for: **Suspended Particles**

Results are reported for sample designations: 2002AH16S01, 2002AH16D01, 2002AH16S02, and 2002AH16S03.



NOV 27/2001

---

Data Management Coordinator and Date Received

Date Transmitted: NOV 27 2001

Please have the U.S. EPA Project Manager/Officer complete the Customer Satisfaction Survey, attached, or call the CRL Sample Coordinator at 3-1226.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin  
Data Management Coordinator  
Region 5 Central Regional Laboratory  
ML-10C

\_\_\_\_\_/ /  
Received by and Date

Comments:

ENVIRONMENTAL PROTECTION AGENCY  
Office of Enforcement

REGION 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO. 02AH16		PROJECT NAME cheshire monitoring study				NO. OF CON- TAINERS	<div style="text-align: right;">Activity Code: <del>12345</del> 901014</div> <div style="text-align: center; font-size: 2em;">AIR 20020012</div>									
SAMPLERS: (Print Name and Sign) mike murphy <i>Mike Murphy</i> <i>Mik Murphy</i>																
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION											
DO1	10/22	00:00	X		GHS	2	TAG NUMBERS 5-340087 1 to 2									
S03	10/22	00:00	X		ADDAVILLE	2	5-340089 1 to 2									
SO1	10/22	00:00	X		GHS	2	5-340086 1 to 2									
SO2	10/22	00:00	X		RVHS	2	5-340088 1 to 2									
							Guidling Hands school									
							Serial # 3012, Pstg avg = 18.75 inches of H <sub>2</sub> O									
							Serial # 3013, Pstg avg = 18.45 inches of H <sub>2</sub> O									
							RVHS									
							Serial # 3009, Pstg avg = 19.1 inches of H <sub>2</sub> O									
							Addaville									
							Serial # 3011, Pstg avg = 19.35 inches of H <sub>2</sub> O									
Relinquished by: (Signature)		Date / Time		Received by: (Signature)			Ship To:									
<i>Mike Murphy</i>		10-29-88 15:25		<i>William Sy...</i>												
Relinquished by: (Signature)		Date / Time		Received by: (Signature)			ATTN:									
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)			Date / Time		Airbill Number							
				<i>William Sy...</i>			11/6/01 16:59		UPS 1Z 401 19901 9038 5944							
												Chain of Custody Seal Numbers				

5-140021

ENVIRONMENTAL PROTECTION AGENCY  
REGION V  
CENTRAL REGIONAL LABORATORY  
FINAL RESULT REPORT FOR THE TEAM: ANALYTICAL AND INORGANIC (A&I)

DIVISION/BRANCH: AIR DIVISION SAMPLING DATE: 10/22/2001 LAB ARRIVAL DATE: 11/06/2001 DUE DATE: 12/04/2001  
DU NUMBER: 90101A DATA SET NUMBER: 20020012 STUDY: CHESHIRE MONITORING STUDY PRIORITY: 1 LABORATORY :CRL

SAMPLE #	CRL LOG NUMBER	SAMPLE DESCRIPTION	SUSPENDED PARTICLE (g/filter)			
1	2002AH16D01	GUIDING HANDS SCHOOL	0.0470			
2	2002AH16S01	GUIDING HANDS SCHOOL	0.0461			
3	2002AH16S02	RVHS	0.0322			
4	2002AH16S03	ADDAVILLE	0.0424			
DATE OF ANALYSIS			11/13-16/2001			
ANALYST			<i>FRA</i>			

Reviewed by: E.8 Date: 11/27/01

Page 1 of 1

CRL SOP: HK015	Date: 07 January 2000	Revision No: 1
Data review for the Analytical and Inorganic Group		Page _ of _

# ATTACHMENT II

## CRL Analytical and Inorganics Data Review Checklist

Batch Number: 20020012 Facility: CHESHIRE MONITORING STUDY

Parameter: SUSPENDED PARTICLES CRL.SOP: AIG047

Package Overview:	YES	NO
Raw Data Package Complete?	✓	
Results Reported Correctly?	✓	
Special Requests Done?	N/A	
Calculations Checked?	✓	
Calibration Not Exceeded?	N/A	
Manual Peak Integration performed? Circle one IC or GC and Check	N/A	
Field QC Checked?	N/A	
Quality Control:		
Holding Times Met?	N/A	
Preservation Checked?	N/A	
Proper Digestion Verified?	N/A	
Initial Instrument Performance Checks Verified?	✓	
Calibration Verification Checked?	N/A	
Sample-Specific QC (Internal Standards or Analytical Spikes) Okay?	N/A	
Matrix QC Checked?	N/A	
Digestion Blanks Checked?	N/A	
Spiked Blank Checked?	N/A	
LCS (if applicable) Checked?	N/A	
QCS (if applicable) Checked?	N/A	
Final Check		
Technical Review Done?	✓	
Narrative Complete?	✓	

Analyst: FVA Peer Reviewer: E.S.  
Date: 11/26/2001 Date: 11/27/01  
Comments Attached? (Y/N) N

<b>Data Set Number:</b>	<u>20020012</u>	<b>Parameter:</b>	<u>Suspended Particles</u>
<b>Facility Name:</b>	<u>CHESHIRE MONITORING STUDY</u>		
<b>Study Name:</b>	<u>CHESHIRE MONITORING STUDY</u>		
<b>Date of Narrative:</b>	<u>11/26/2001</u>	<b>Analyst:</b>	<u>FAA</u>
		<b>Signature:</b>	<u>FAA</u>

### ANALYSIS CASE NARRATIVE

Four (4) exposed filters were received for suspended particle analysis at the Central Regional Laboratory (CRL) on November 6, 2001. Those filters were fractions of clean filters, prepared at the CRL and sent to the field for exposure. Filter identification numbers and other pertinent information obtained from the individual filters and packaging envelopes are presented in the table below.

Filters ID	Samples ID	Tag Number
Q6280045	2002AH16D01	5-340087-2
Q6280043	2002AH16S01	5-340086-2
Q6280046	2002AH16S02	5-340088-2
Q6280047	2002AH16S03	5-340089-2

Filter equilibrations and final weighting of exposed filters were performed according to CRL.SOP AIG047. Analysis of exposed filters began on 11/13/2001 and was completed on 11/16/2001. All exposed filters were in good conditions.

### QUALITY CONTROL (QC):

Analysis results were evaluated using the QC requirements of CRL.SOP AIG047. All the required quality control criteria for the laboratory, method, and system performance audits were evaluated and determined to be within the limits.

SAMPLE RESULTS: All the sample results are acceptable for use.

### ELECTRONIC DATA:

No electronic data are available.

# CHESHIRE AIR MONITORING PROJECT

## PM10

Parameter: Suspended Particles

Data Set Numbers: 20020009, 20020012, and 20020013

Date of Analysis 11/13-16/2001

Analyst: FAA

### BALANCE VERIFICATION:

Standard Weights	Balanced weight	Differences
Actual (g)	Balanced (g)	(g)
Limit +/-0.0005 g		
<b>Data set Number 20020009, 20020012, &amp; 20020013</b>		
1.0000	1.0000	0.0000
2.0000	2.0000	0.0000
5.0000	4.9999	0.0001

### QC-SUMMARY FOR EXPOSED FILTERS

Filter ID Number	CRL Sample I.D Number	Weighing Date	ANALYST	Exposed weight (g)
<b>Data set Number 20020009</b>				
Q6280052	2002AH15S03	11/16/01	Analyst 1	4.3474
Q6280052	2002AH15S03	11/16/01	Analyst 2	4.3476
Differences (Limit +/- 5 mg).....				-0.0002
<b>Data set Number 20020012</b>				
Q6280047	2002AH16S03	11/16/01	Analyst 1	4.4342
Q6280047	2002AH16S03	11/16/01	Analyst 2	4.4346
Differences (Limit +/- 5 mg).....				-0.0004
<b>Data set Number 20020013</b>				
Q6280039	2002AH17S01	11/16/01	Analyst 1	4.3935
Q6280039	2002AH17S01	11/16/01	Analyst 2	4.3940
Differences (Limit +/- 5 mg).....				-0.0005

**CHESHIRE AIR MONITORING PROJECT**  
**PM10**

Filter ID	CRL Sample	Sampling	Station	Sampler	Pstg	P1/Pa	Total	Pre Weight	Exposed	Weight	PM10
Number	I.D Number	Date	Location	SN	Avg		Volume (M <sup>3</sup> )	of filters (g)	weight (g)	Gain	(UG/M <sup>3</sup> )
<b>Data set Number 20020009</b>											
Q6280050	2002AH15S01	10/16/01	Guiding Hands School	3012	19.95		0.00	4.3779	4.3870	0.0091	ERR
Q6280048	2002AH15D01	10/16/01	Guiding Hands School	3013	19.40		0.00	4.3727	4.3813	0.0086	ERR
G6280051	2002AH15S02	10/16/01	RVHS	3009	20.20		0.00	4.3707	4.3795	0.0088	ERR
Q6280052	2002AH15S03	10/16/01	ADDAVILLE	3011	19.35		0.00	4.3396	4.3474	0.0078	ERR
<b>Data set Number 20020012</b>											
Q6280043	2002AH16S01	10/22/01	Guiding Hands School	3012	18.75		0.00	4.3984	4.4445	0.0461	ERR
Q6280045	2002AH16D01	10/22/01	Guiding Hands School	3013	18.45		0.00	4.3746	4.4216	0.0470	ERR
G6280046	2002AH16S02	10/22/01	RVHS	3009	19.10		0.00	4.3672	4.3994	0.0322	ERR
Q6280047	2002AH16S03	10/22/01	ADDAVILLE	3011	19.35		0.00	4.3918	4.4342	0.0424	ERR
<b>Data set Number 20020013</b>											
Q6280039	2002AH17S01	10/28/01	Guiding Hands School	3012	19.20		0.00	4.3713	4.3935	0.0222	ERR
Q6280041	2002AH17D01	10/28/01	Guiding Hands School	3013	19.70		0.00	4.3753	4.3973	0.0220	ERR
G6280040	2002AH17S02	10/28/01	RVHS	3009	20.30		0.00	4.3934	4.3978	0.0044	ERR
Q6280042	2002AH17S03	10/28/01	ADDAVILLE	3011	19.50		0.00	4.3560	4.3751	0.0191	ERR



## General information

## Standard weights, actual (g)

## Balanced weights, balanced (g)

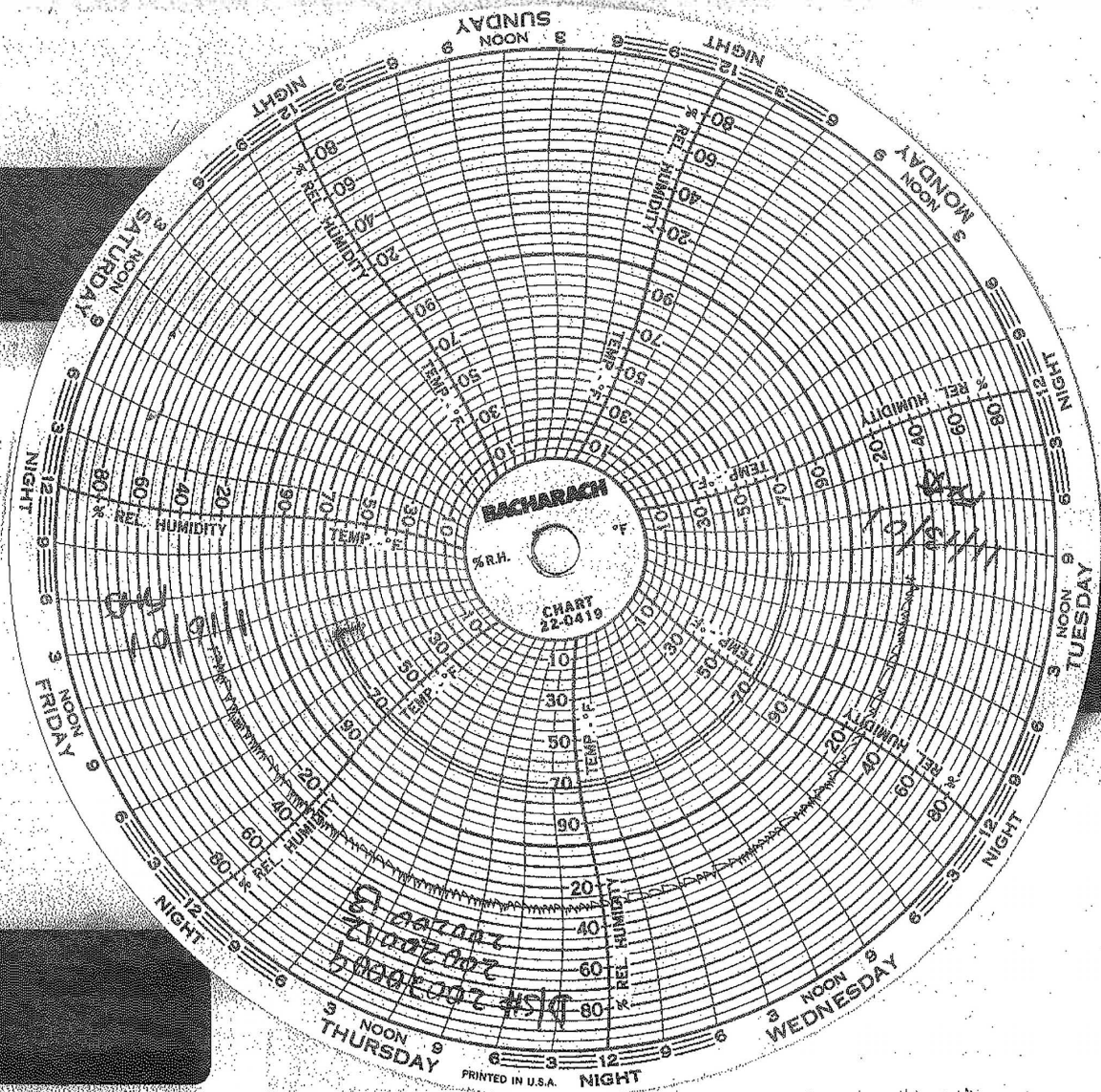
METTLER TOLEDO	0.1000	0.1000
AG285	0.5000	0.5000
S/N 1120181838	2.0000	2.0000
11/16/01 FFA	5.0000	5.0000

SARTORIUS	1.0000 (500+200+200+100mg)	1.0000
S/N 37010119	2.0000	2.0000
11/16/01 FFA	5.0000	4.9999



Filters	Tare Wt	Dep. Wt	Exposed Wt	Exposed Deep	Comments
ID	(g)	(g)	(g)	Wt(g)	
Q6280058	4.3739	4.4361	4.4301	4.4180 <sup>10/23/01</sup>	4.4128
Q6280057	4.3783	4.4400	4.4301	4.4232 <sup>10/23/01</sup>	4.4211 <sup>E.S.</sup>
Q6280056	4.3396	1	4.3606 <sup>10/23/01</sup>		4.4209
Q6280055	4.3613		4.3789		
Q6280054	4.3664		4.3919	4.3914 <sup>E.S.</sup>	
Q6280053	4.3510		4.3771		
Q6280052	4.3396		4.3474	4.3476 <sup>E.S.</sup>	
Q6280051	4.3707	4.3709 <sup>E.S.</sup>	4.3795		
Q6280050	4.3779		4.3870		
Q6280048	4.3727		4.3813		
Q6280047	4.3918	4.3915 <sup>E.S.</sup>	4.4342	4.4346 <sup>E.S.</sup>	
Q6280046	4.3672		4.3994		
Q6280045	4.3746		4.4216		
Q6280043	4.3984		4.4345		
Q6280042	4.3560		4.3751		
Q6280041	4.3753		4.3973		
Q6280040	4.3934		4.3978		
Q6280039	4.3713		4.3935	4.3940 <sup>E.S.</sup>	
Q6280038	4.3721				
Q6280037	4.3934				
Q6280036	4.3718	4.3712 <sup>E.S.</sup>			
Q6280035	4.3789				
Q6280034	4.3436				
Q6280033	4.3729				







US EPA Region 5 Field Sample



5-340087-2

Parameters PM10

21002002

Preservative None S M M D B D

Sample ID 02AH16DO1 X

Sampler Mike Murphy

Date 10-29-02

AIRS

-10

OPERATOR OLEH

DATE 10-22-02

SITE GAS # 3513, Q 6280048

3. RECORDER RESP. 18.45 TEMP °C K FINAL WT g

APSED TIME 1440 MINUTES PRESS mmHg INITIAL WT g

3.0W m³/min TOTAL FLOW m³ SAMPLE WT g

0 ACTUAL PM-10 ug/m³

REMARKS:



US EPA Region 5 Field Sample



5-340086-2

Parameters PM10

S M MD B D

Preservative None

Sample ID 02AH16SO1

Sampler *Nick Murphy*

Date *10-29-02*

*200202*

AIRS

PM-10 ☒

OPERATOR *CEPA*

DATE *10-22-02*

TSP

SITE *CHS # 3012* *43* *06230052*

AVG. RECORDER RESP. *18.75*

TEMP *9* C

K

FINAL WT

g

ELAPSED TIME *1440*

MINUTES

PRESS

mmHg

INITIAL WT

g

FLOW

m<sup>3</sup>/min

TOTAL FLOW

m<sup>3</sup>

SAMPLE WT

g

STD

ACTUAL

PM-10

ug/m<sup>3</sup>

COMMENTS:



US EPA Region 5 Field Sample



5-340088-2

Parameters PM10

20070072

Preservative None S M MD B D  
Sample ID 02AH16SO2 X  
Sampler Mike Murphy  
Date 10-29-07

AIRS

M-10

OPERATOR OEPH

DATE 10-23-07

SP

SITE RVHS # 3009, Q6280046

UG RECORDER RESP.

19.1

TEMP

°C

K

FINAL WT

g

APSED TIME

1440

MINUTES

PRESS

mmHg

INITIAL WT

g

OW

m<sup>3</sup>/min

TOTAL FLOW

m<sup>3</sup>

SAMPLE WT

g

TD

ACTUAL

PM-10

ug/m<sup>3</sup>

COMMENTS:



US EPA Region 5 Field Sample



5-340089-2

Parameters PM10

20020012

Preservative None S M MD B D  
 Sample ID 02AH16S03 X  
 Sampler *Mike Murphy*  
 Date 10-29-02

AIRS

PM-10 ☒

OPERATOR *CEPPH*

DATE 10-29-02

TSP

SITE *Alberville # 3011, PG276047*

AVG. RECORDER RESP. *19.35*

TEMP  °C  K FINAL WT  g

ELAPSED TIME *1440* MINUTES PRESS  mmHg INITIAL WT  g

FLOW  m<sup>3</sup>/min TOTAL FLOW  m<sup>3</sup> SAMPLE WT  g

STD  ACTUAL  PM-10  µg/m<sup>3</sup>

COMMENTS: